WHAT IS CLAIMED IS:

1. A method for detecting the presence of an analyte particle in a fluid, said method comprising, sequentially:

   filtering a sample of said fluid to remove particles in said sample larger than said analyte particle;

   adding to said sample a reagent that interacts with said analyte particle to form a reagent-analyte particle complex that is larger than said analyte particle;

   filtering said sample to remove particles from said sample that are smaller than said reagent-analyte particle complex;

   testing said sample for the presence of said reagent-analyte particle complex to detect the presence of said analyte particle in said fluid.

2. A method in accordance with claim 1, wherein said fluid is a biological fluid.

3. A method in accordance with claim 2, wherein said biological fluid is blood.

4. A method in accordance with claim 3, wherein said analyte particle is human immunodeficiency virus.

5. A method in accordance with claim 1, wherein said analyte particle is a virus.

6. A method in accordance with claim 4, wherein said virus is human immunodeficiency virus.

7. A method in accordance with claim 6, wherein said reagent is truncated CD4 glycoprotein.

8. The method of claim 7, wherein said filtering is performed using micro-injected molded plastic.

9. A lab-on-a-chip for detecting the presence of an analyte particle in a fluid, comprising

a first chamber for receiving a sample of said fluid;

a second chamber for receiving a reagent that reacts with said analyte particle in said sample to form a reagent-analyte particle complex, larger than said analyte particle;

a filter in flow communication with said second chamber, said filter sized to pass said analyte particle, and block said reagent-analyte particle complex;

a detector for detecting the presence of said reagent-analyte particle complex in said second chamber.

10. The lab-on-a-chip of claim 9, wherein said filter is in flow communication with said first chamber, to block particles larger than said analyte particle from passing from said first chamber to said second chamber.

11. The lab-on-a-chip of claim 9, further comprising a second filter in flow communication with said first chamber and said second chamber, to block particles larger than said analyte particle from passing from said first chamber to said second chamber.

12. The lab-on-a-chip of claim 9, wherein said fluid is a biological fluid.

13. The lab-on-a-chip of claim 12, wherein said biological fluid is blood.

14. The lab-on-a-chip of claim 9, wherein said analyte particle is a virus.

15. The lab-on-a-chip of claim 14, wherein said virus is human immunodeficiency virus.

16. The lab-on-a-chip of claim 15, wherein said reagent is truncated CD4 glycoprotein.

17. The lab-on-a-chip of claim 9, wherein said second chamber comprises a serpentine mixing passage for mixing said reagent with said analyte particle in said sample.

18. The lab-on-a-chip of claim 9, wherein said detector comprises an electrode for electrically detecting presence of said reagent-analyte particle complex in said second chamber.

19. The lab-on-a-chip of claim 15, wherein said filter is sized to block particles larger than 110 nanometers.

20. The lab-on-a-chip of claim 9, further comprising a pushing element for urging said sample through said filter.

21. The lab-on-a-chip of claim 20, wherein said pushing element is electronically controlled, and further comprising a processor to control said pushing element.